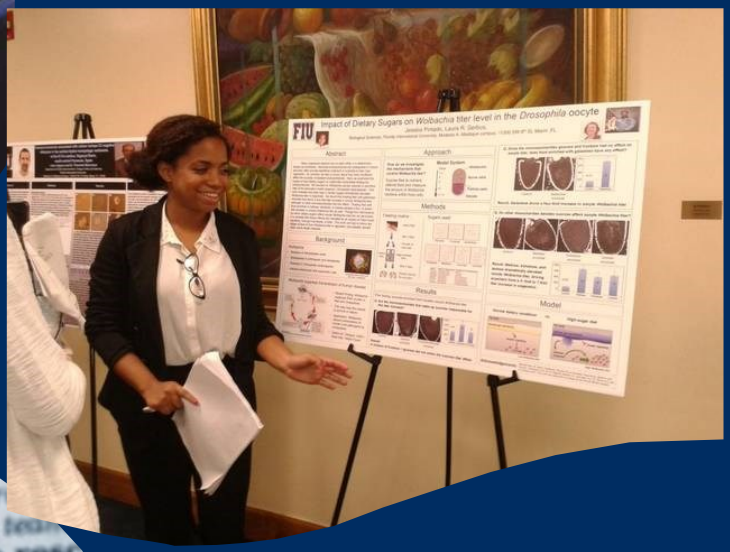
FIU | Research & Economic Development

Fiscal Year 2014-2015

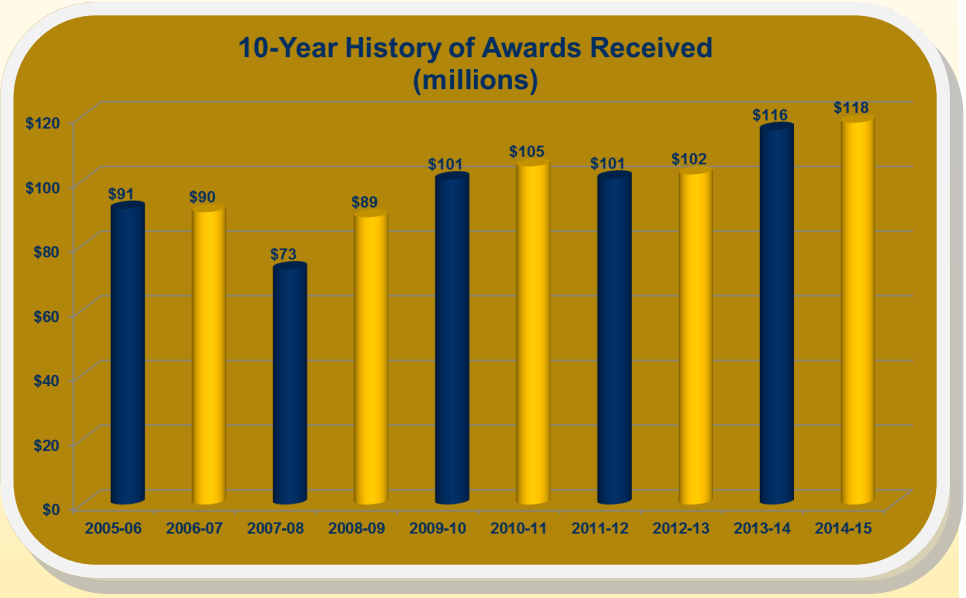


FIU

Research & Economic Development

External Grant Awards' Performance

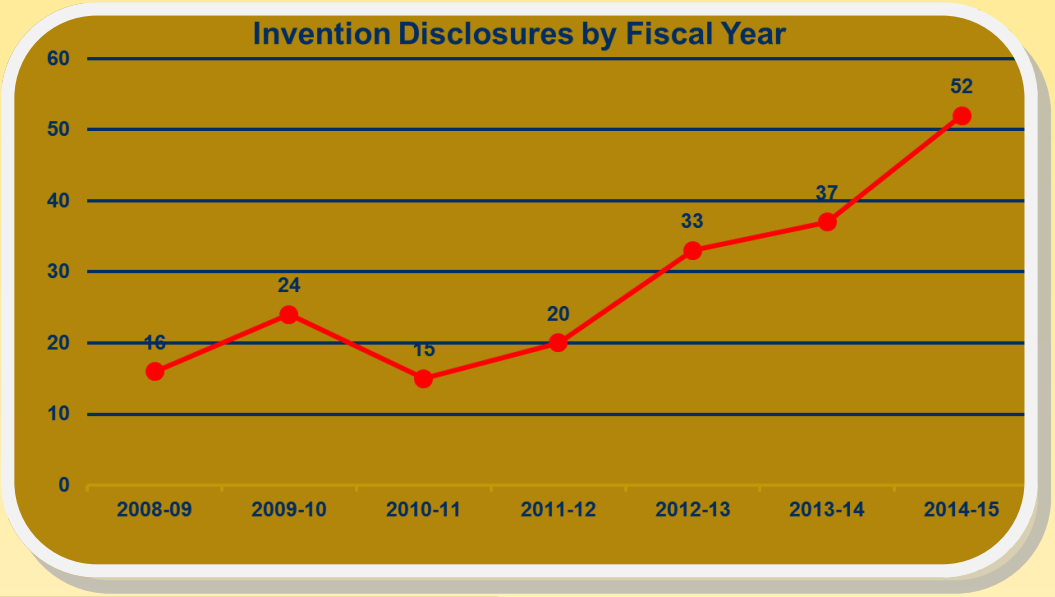
Awards received during FY 2014-2015 increased by 2%, from $115.8M last fiscal year to $118.1M. The amount of funding requested during FY 2014-2015 was $509M, which represented an 8.11% increase from the prior FY request of $471M. Awards received from federal sources decreased by 21%, but awards received from state and local governments increased by 34%, as well as awards received from private and other sources. The latter increased by 139%, from $13.45M to $32.14M.

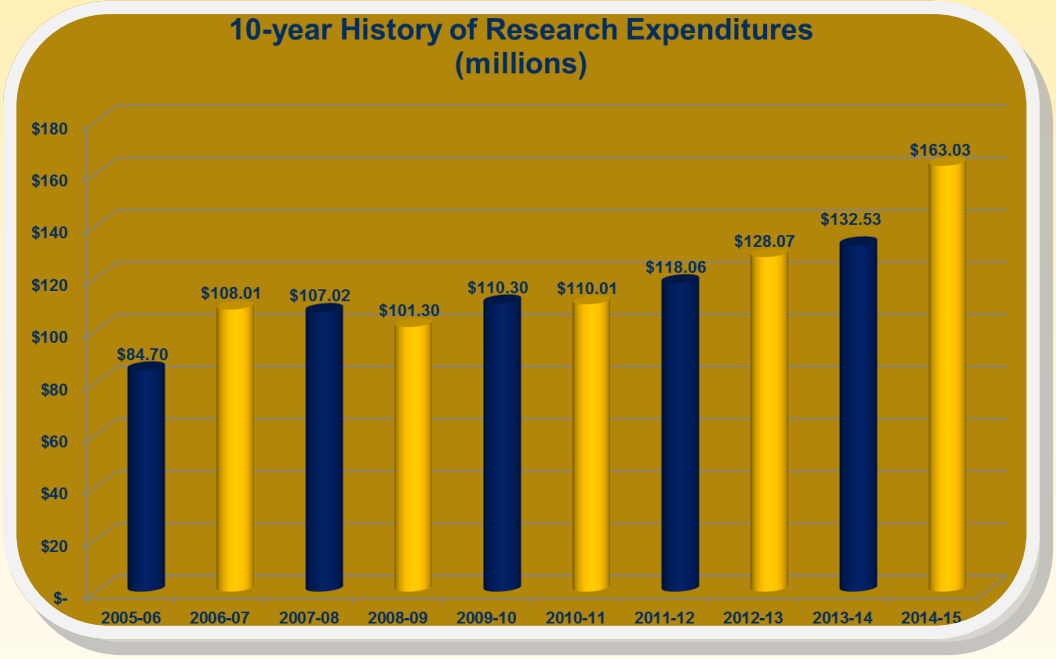


Technology Management and Commercialization

In FY 2014-2015, FIU applied for forty six (46) patents, surpassing our goal by six. This means that during the past three fiscal years (2013-2015), there have been 127 patent applications. This is three times higher than the prior three years (2010 -2012), and 2.2 higher than the prior four year period (2009-2012). FIU invention disclosures increased by 40% when compared with last fiscal year—from 37 to 52.

225% increase





92% increase

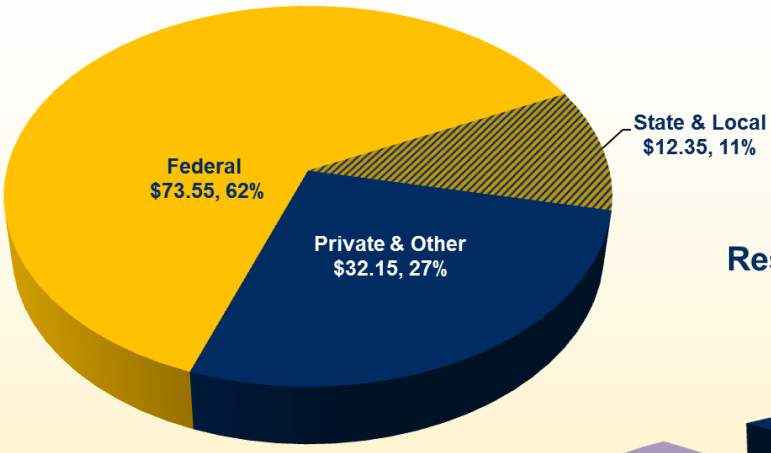
FY 2014-2015 R&D Expenditures at Public Institutions		
1	University of Michigan, Ann Arbor	$1,369,278
10	University of Pittsburgh, Pittsburgh	$861,205
25	University of Alabama, Birmingham	$516,229
50	Iowa State University	$306,125
75	Utah State University	$175,353
82	**Florida International University**	**$163,033**
100	George Mason University	$106,410

NSF Career Awards

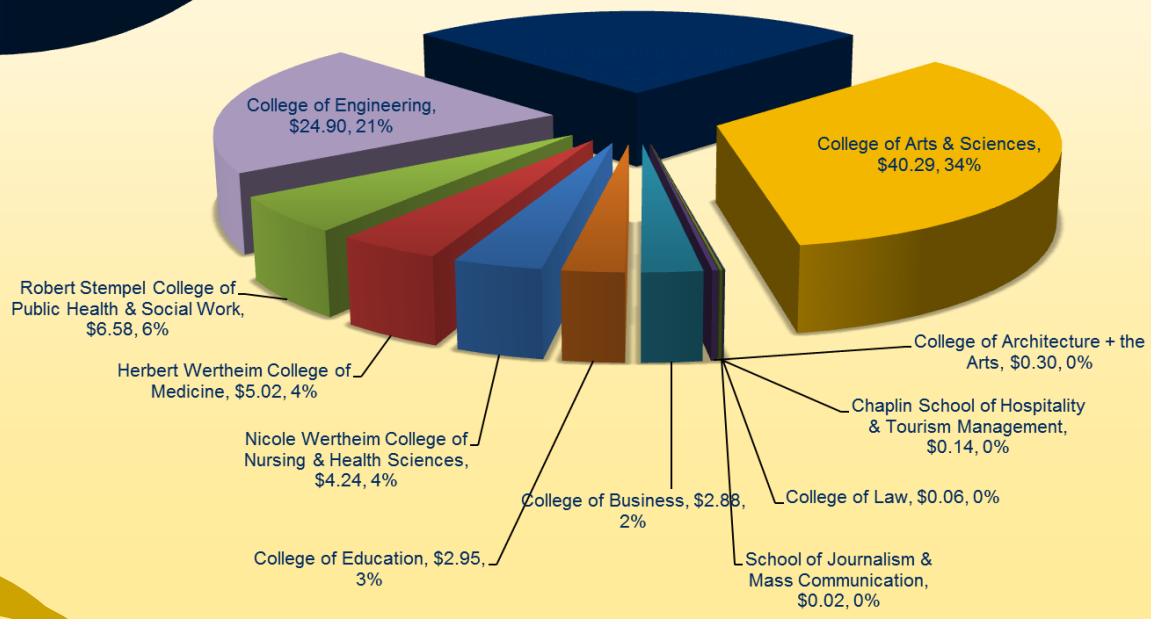
The NSF CAREER awards are the agency's most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. During fiscal year 2014-2015, six FIU researchers received NSF CAREER awards. Among them:

- ◊ Jin He, assistant professor of Physics, for his project titled "Investigate 3D Extracellular Potential Distribution at Single Cell Level." The project will develop advanced scientific instruments using nanotechnology to decipher electrical signals that can be used as physical biomarkers for diagnostic and therapeutic purposes.
- ◊ Arif Selcuk Uluagac, assistant professor of Electrical and Computer Engineering for his project titled "Securing Sensory Side-Channels in Cyber-Physical Systems (CPS)." His project will develop novel security tools and techniques to protect CPS devices and applications against cyber-attacks. The project will also train Miami-Dade County Public Schools students.
- ◊ Deron Burkepile, assistant professor of Biology, for his project titled "Fish-derived Nutrients in a Coral Reef Ecosystem—Impacts on Benthic Communities and Importance for Coral Restoration." The project seeks to understand how the effects of fish-derived vs. human-derived nutrients impact the health of coral reef ecosystems. This research will also facilitate a number of training and outreach opportunities including training graduate and undergraduate students, and creating a partnership between FIU and MAST@FIU.
- ◊ Ismail Guvenc, assistant professor of Electrical and Computer Engineering, for his project titled "Towards Broadband and UAV-Assisted Heterogeneous Networks for Public Safety Communications (PSC)." His research proposes the use of unmanned aerial vehicles (UAVs) along with cellular technologies that will serve as the pillar of next generation PSC systems.

Research Awards by Sponsor Type FY 2014-2015 (millions)



Research Awards by Unit FY 2014-2015 (millions)



Collaborations and Partnerships

- FIU and Florida Power & Light Company (FPL) formed a new partnership to build a commercial-scale distributed solar power facility that will both generate electricity for FPL's 4.8 million customers and serve as an innovative research operation. The project involves the installation of more than 5,700 solar panels on 23 canopy-like structures that will be built in the parking lot of the Engineering Center.
- Twice during 2014-2015, NASA went to the bottom of the sea for seven- and nine-day missions at FIU's Aquarius Reef Base. Four astronauts participated in NASA's Extreme Environment Mission Operations 18 and 19 (NEEMO), conducting activities on the ocean floor that will inform future International Space Station and exploration activities.
- FIU was also named a major research, monitoring and education partner of the Florida Keys National Marine Sanctuary under an agreement with the National Oceanic and Atmospheric Administration (NOAA).
- FIU and the National Tropical Botanical Garden (NTBG) joined forces to create the International Center for Tropical Botany (ICTB) at The Kampong in Coconut Grove, Florida. The Center's headquarters will be built on land donated to FIU from NTBG, and will be adjacent to The Kampong, the NTGB's only garden outside of Hawaii. Scientists at the center will lead efforts to preserve and study tropical plants for future generations.
- In partnership with Banyan Health System's BRIC (Banyan Research and Innovation Center), FIU's Community-Based Intervention Research Group (C-BIRG) established a multi-disciplinary institute—the Florida International University-Banyan Research Institute for Dissemination, Grants and Evaluation, FIU-BRIDGE. The partnership folds BRIC grants into FIU-BRIDGE, and will provide research space for FIU-BRIDGE at Banyan locations. The institute will expand the breadth and depth of rigorous community-based research on prevention and treatment of health, substance use and mental health among children and adults.
- FIU and The Paul G. Allen Family Foundation signed an agreement whereby the Foundation granted FIU $3.97M to support the global underwater survey of sharks and rays. Specifically, the agreement is for the GLOBAL FIN-PRINT project. This project is the first global, multi-institutional effort to combine existing baited remote underwater video data sets to create the largest and most comprehensive data collection and analysis program of the world's populations of reef-associated sharks and rays to provide insight essential to conservation efforts. The research team composed of scholars from around the globe, assisted in attracting internationally recognized shark expert and lead principal investigator, Dr. Demian Chapman, who joined the faculty at FIU.
- Baptist Health South Florida and FIU have agreed to establish an academic translational cancer research center laboratory under the direction of Dr. Jeff Boyd. The generous $1.256M gift will assist Dr. Boyd (regarded both nationally and internationally as one of the leading scientists in the study of the molecular genetics of women's cancers) and his research team to continue their focus on finding better methods of diagnosis, more effective treatments and eventually a cure.

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